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(71) Applicant: Gutbezahl, Gabriel Sergio
Buenos Aires (AR)

(72) Inventor: Perez Roldan, Alberto
Ciudad de Buenos Aires (AR)

(74) Representative: Canela Giménez, Teresa
C/Girona no 148, 1o 2a
08037 Barcelona (ES)

(54) A transparent elastic and free-standing compound for the manufacture of candles and the free-standing candle obtained with said compound

(57) Refers to a compound comprising the mixture of a hydrocarbon oil in a relation of about 88 to 75 in weight percent and at least one copolymer selected from the group of triblock and diblock polymers in a proportion from about 12 to 25 in weight percent; wherein said hidrocarbon oil having a viscosity of at least 180 SUS at 37°C (100°F) or, if viscosity in CST, being greater than 32 at 40°C (104°F), and the flash point (VCA) greater than 220°C (425°F). Also is claimed a free standing candle built with this compound, being said candle capable of maintaining the free standing condition even when is lit by means of a flame produced as consequence of the combustion of a wick that crosses the body of the candle proyecting toward outside one of its ends.

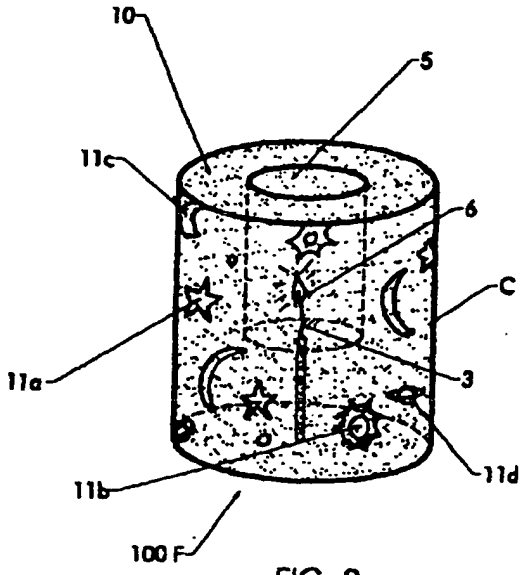

FIG. 8

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Description

BACKGROUND OF THE INVENTION

Technical field

[0001] The main object of this invention is a transparent, elastic and free-standing compound for the manufacture of candles and the candle obtained with said compound, which is suitable as raw material in the manufacture of candles in general, providing new possibilities for the structure thereof, which are not possible to achieve or obtain with the materials that are currently used with the same purpose.

[0002] It is understood by "transparent" the condition that allows the passing of the light through the body of the candle.

[0003] It is understood by "elastic" the characteristic that allows contraction and elongation deformations when pressing the surface and the return to original shape when the pressure finishes.

[0004] It is understood by " free standing" the ability to stand by itself at room temperature even during its use, which means that the heat of the candle wick's combustion does not melt nor deform the body of the candle.

More specifically, the present invention relates to a compound obtained from the mixture of hydrocarbon oil, specially white oils and block copolymers.

[0005] It referes to a compound that has enough consistency to be free-standing, maintaining elasticity features, while it keeps transparency , as well as the possibility of configuring bodies of various shapes and designs, with the special particularity of allowing the incorporation of at least one candlewick, like those used by candles in general, through same a combustion that generates a stable and lasting flame without giving off unpleasant odors is produced.

[0006] The compound of the invention has been particularly created for the manufacture of transparent candles which, at the same time are free-standing, that is to say, which do not need a container that supports them. Candles also have the condition of being elastic and unbreakable when they fall or receive sudden knocks and may be mixed with dyes and aromatic fragances , as well as have decorative elements that are noticeable from outside ,or other or inner functional resources related to the art of lighting and decorating different enviroments.

PRIOR ART

[0007] Traditional candles are known, those to be ignited and give light, which form longer bodies, generally cylindrical and with a lengthen candlewick included in relation to its longitudinal axe. They are manufactured with materials such as paraffin, wax, tallow or stearine. They have the inconvenience that, though being self supporting, they are not transparent nor elastic, so their decorative and ornamental abilities are limited.

[0008] We may also mention the well-known " oil candle" that is liquid, and therefore, require a container for the manufacture and usage, being this also an obstacle to decorative abilities and of outside structure since, invariably, they depend on a recepient that contain the fuel. On the other hand, now they are not well sold due their compounds have to be commercialized separately since the candle has to be conformed by the user.

[0009] Different realizations divulging compound compositions that may be applied to the conformation of candles are known and comprise a mixture of hydrocarbon oil in a between 90% and 70% proportion and one or more copolymers sellected from a group of triblock and diblock polymers in a between 2% and 30% proportion. This is due to the fact that, with said proportions, is possible to form solid and transparent gels that can be molded by thermal treatment.

[0010] In spite of that, there are no antecedents divulging the possibility that those transparent gels may conform the body of a free-standing candle which does not deform nor flash when burned during its use.

[0011] In this sense, U.S. Patent 5879694 to Morrison et al. teaches a solid transparent gel candle comprising a hydrocarbon oil, a wick, and one or more triblock or multiblock copolymer wich constitute a thermoplastic elastic. Only optionally uses a diblock copolymer. (Abstract).

[0012] The prefered composition divulged by this invention contains nearly an aproximate 4% to 20% polymer and nearly from 80% to 96% of hydrocarbon oil, preferably white oil. The sellected polymer is a triblock polymer as " Kraton G", more particularly "Kraton G-1650" (column 6 lines 7 to 12).

[0013] But the Morrison document does not divulge nor suggest the possibility of a compound capable of maintaining the free-standing condition when the candle is burning. In fact, it describes as a prefered polymer the "Kraton G 1650".

[0014] This is the reason why Morrison says: "preferably, clear glass jars are used for a jar candle" (column 6 lines 64-65) in order to prevent the expected deformation of the compound when gets fluid as a consequence of the flame's heat.

[0015] In US Patent 6066329 to Morrison also divulges a transparent stiff gel candle comprising a hydrocarbon oil, a wick and one or more triblock or multiblock copolymers of a thermoplastic rubber, and optionally, a diblock copolymer (Abstract)

[0016] A prefered composition of the Morrison's invention will contain from about 4 to about 20 percent of the polymer and from about 80 to about 96 percent of a suitable hydrocarbon oil, preferable white oil. The chosen polymer is a triblock polymer like "Kraton G" particularly "Kraton G 1650" (column 6 lines 39-44).

[0017] It also divulges as particularly preferred to hold the candles in conventional jars, clear, colored, sculped, cut glass jars, preferably, clear glass jars are used as candle container.(column 7 lines 27-35).

This Morrison's document does not teach any special characteristic of the mineral oil that may involve the possibility of conforming free standing candles. And not even suggests a composition like the one proposed by the present invention.

[0018] US Patent 6 096 102 to Mathai divulges in particular, a candle built of a basic material comprising between 93 and 98 weight percent of hydrocarbon oil "white oil" and between 7 and 10 weight percent of a copolymer sellected from the group of triblock , radial block and multiblock copolymers and between 0 and 10 weight percent of a diblock copolymer (column 3 lines 18-28).

[0019] In his invention Mathai combines a first component, which is formed by an oil, a copolymer and synthetic paraffin, with a second component comprising conventional paraffin, where the first component and the second component are arranged ,alternately, in layers.

[0020] In this invention does not appear the possibility of building a free standing candle. In all the drawings appear clearly indicated a glass body described as container (7): "In addition, a transparent glass body 7 is provided which surrounds the region 3 and gives the candle structure" (column 7 lines 43-44).

It is clear that Mathai's combination of compositions does not allow to conform free standing candles without the use of a glass container (7).

[0021] US Patent 5 578 089 to Elsamaloty divulges a clear candle built with a gel comprising a mineral oil combined with diblock and triblock copolymers based on synthetic thermal plastic rubbers. The clear candle is stable, does not separate and does not flash when burned. The candle, although free standing at room temperature, will preferably be supplied in a container, and it may be colores and or scented. (Abstract).

[0022] Although Elsamaloty's document divulges a gel which is free standing at room temperature, it is clear that this free standing condition can not be maintained when the candle is burned. Even says : "The container for a candle made hereunder can comprise any of a variety of devices which can contain the gel, do riot burn and do not melt.

[0023] Preferably, a faceted glass container can be used for aesthetic purposes. While it is contemplated that a clear candle made according to the present invention could be provided without a container, due to the gel-like nature of the candle itself, and its potential flowability when heated it is preferred that such candles include an appropriate container." (column 8 lines 38-46) Precisely, is that potential flowability mentioned by Elsamaloty what is clearly overcome by the present invention's compound. The special compound proposed in this invention is what makes sure the candle will not melt during the use nor will get fluid. Therefore, does not need a container. This very distinctive characteristic of the present invention is a direct consequence of the special composition dicovered.

[0024] In US Patent 6111 055 to Vivian Berger also divulges the use of between 70 arid 98 weight percent of hydrocarbon oil with between 2 and 30 weight percent of copolymers sellected from a group of triblock, radialblock and multiblock copolymers and from 0 to 10 weight percent of a diblock copolymer (column 4 lines 22-28).

[0025] Berger's invention is, precisely, the combination of said gel with the use of a solid coat which specific function is avoid deformations and flashing of the compound while the candle is burning.

[0026] Berger uses Morrison's compositions with the only new of a solid coat.

[0027] In this sense, the solution proposed by the present invention eliminates the need of using a solid coat.

NOVELTY OF INVENTION

[0028] While experimenting and doing some laboratory proofs, the inventor discovered that the following composition is the one that has special qualities: it is transparent, free standing and elastic, with enough consistence to form a candle with stable flame, that does not deform and that does not get fluid during its use.

[0029] More specifically, the present invention refers to a compound obtained by the mixture of hydrocarbon oil, specifically white oil and block polymers.

[0030] The present invention refers to a compound to be used in the manufacture of candles which has enough consistency to be free-standing maintaining elasticity characteristics while being transparent and allowing the configuration of different shapes and designs.

[0031] The compound of the present invention has the particularity of allowing the incorporation of at least one candlewick, similar to those used in regular candles, to provoke the combustion of the candle made with the compound of the present invention, generating a stable and lasting flame without spreading unpleasant odors.

[0032] The compound of the present invention has been created to manufacture transparent candles which are free standing, that means, the candles do not need to be supported by a container.

[0033] The candles obtained with the compound of the present invention, are elastic and unbreakable when they fall

or receive sudden knocks and they can also be mixed with colorants and aromatic fragrances as well as can include decorative elements that can be seen from the outside .

[0034] From this compound, it is possible to manufacture candles that stand out because they have the following features:

a) Being elastic, they present a consistency solid enough to be self-supporting, without requiring containers for its normal functioning.

b) They keep the condition of being resistant to mechanic knocks without generating undesirable breaks, splits or contusions, as it happens with paraffin candles.

c) They are highly transparent; so light may pass through its body.

d) They may be mixed with fragrances so as the consumption during the flame action also produces the release of pleasant odors.

e) They may be mixed with dyes, which is profitable from the ornamental point of view.

f) During manufacturing, it is possible to generate the presence of air bubbles of various sizes that are distributed in the whole body, which are useful as decorative resources.

g) They may be mixed with other decorative elements such as granule particles of all kinds and sorts, that are also distributed in the thickness of the body they form, that keep visible from outside. These decorative elements are even more enhanced when the candle is lighted. In this sense, granule products that reflect light in various colors, such as those commonly called "purpurin" and/or "brilliantine" are highlighted.

h) Their thickness may make the support for other products or decorative bodies such as letters, numbers, little animals or other objects.

i) It refers to a reversible or recyclable compound since it is possible to heat it and melt it later,and when it is cold at room temperature keeps the same constituent features.

[0035] Likewise, it is highlighted that all said features and conditions are maintained without affecting each other.

[0036] The reasons by which this composition provides superior and unexpected type results, are related with the chemical characteristics of the white oil.

[0037] When the values specified in the present invention are maintained, a very special relation between the viscosity and the flash point is achieved, because, if the values are below the especified values, the compound could be free standing at room temperature but the heat of the wicks combustion can melt the compound to a liquid point. Instead, if more polymer is used to harden the composition, the compound may inflame with the combustion produced by the candles wick.

SUMMARY OF THE INVENTION

[0038] Consequently, it is the main object of this invention, A TRANSPARENT, ELASTIC AND FREE STANDING COMPOUND FOR THE MANUFACTURE OF FREE STANDING CANDLES, formed with the mixture of a hydrocarbon oil in a relation of about 88 to 75 in weight percent, and more specifically 83.8 in weight percent, and at least one copolymer selected from the group of triblock and diblock polymers in a proportion from about 12 to 25 in weight percent; and more specifically 16,2 in weight percent where said hidrocarbon oil having a viscosity of at least 180 SUS at 37°C (100°F)or, if viscosity in CST, being greater than 32 at 40°C (104°F), and the flash point greater than 220°C (425°F).

[0039] In a prefered realization, the hidrocarbon oil has a viscosity of 340 SUS at 37°C (100°F)or, a viscosity in CST, greater to 67,8 at 40°C (104°F).

[0040] In a prefered realization the hidrocarbon oil has a flash point at 240°C (464°F).

[0041] In a prefered realization the selected copolymers are three-block polymers "Kraton G 1652 ".

[0042] Likewise, it is also the object of this invention, A FREE STANDING CANDLE, manufactured with the mixture of: a hydrocarbon oil in a relation of about 88 to 75 in weight percent, more specifically 83.8 in weight percent and at least one copolymer selected from the group of triblock and diblock polymers in a proportion of about 12 to 25 in weight percent, more specifically 16.2 in weight percent; where the hidrocarbon oil has a viscosity of at least 180 SUS at 37°C (100°F)or, if viscosity in CST, is greater than 32 at 40°C (104°F), and the flash point is greater than 220°C (425°F), being said candle capable of maintaining the free standing condition even when is lit by means of a flame produced as consequence of the combustion of a wick , said wick crossing the body of the candle and proyecting toward outside one of its ends. Preferably, the candlewick is a cotton string, imbibed in an alcoholic solution of vegetal resin, such as pine resin.

[0043] Is worth to emphazise that, due to the elasticity of the candle's compound, the candlewick is firmly retained in a passing hole produced when the compound is cold, which crosses the body of the candle in longitudinal correspondence to the axis of symmetry from the inferior base.

[0044] Due to the special characteristics of the compound, this free standing candle can be built by the union of a plurality of different format minor portions wherein said minor portions are individually made with a mixture of a hydrocarbon oil in a relation of about 88 to 75 in weight percent , more specifically 83.8 in weight percent and at least one copolymer selected from the group of triblock and diblock polymers in a proportion from about 12 to 25 in weight percent , more specifically 16.2 in weight percent,where said hidrocarbon oil having a viscosity of at least 180 SUS at 37°C (100°F)or, if viscosity in CST, being greater than 32 at 40°C (104°F), and the flash point greater than 220°C (425°F).

[0045] Mention must be also made to the fact that the mixture includes dye essences, which may be combined with aromatic fragrances, as well as air bubbles distributed in the whole thickness according to different sizes. Likewise, it is mentioned that the candle body includes decorative elements arranged in the inner part of its thickness, which, due to the particular transparency of the compound, are kept visible from outside, which are located out of the portion of the compound adjacent to the candlewick.

BRIEF DESCRIPTION OF THE DRAWINGS

[0046] A more complete appreciation of this inventon, and many of the attendant advantages thereof, will be readily apparent as the same becomes better understood by reference to the following detailed description when considered in conjunction with the accompanying drawings in which like reference symbols indicate the same or similar components, wherein:

[0047] Figure 1 is a perspective view showing one embodiment a mold to conform free standing candles with the compound of the present invention;

[0048] Figure 2 is a perspective view of a free standing candle molded in a mold like the one showed in the previous figure.

[0049] Figure 3 is a perspective view showing a free standing candle conformed by a plurality of minor portions built with the invented compound and united one with each other.

[0050] Figure 4 is a esquematic perspective view showing a free standing inflamed candle with the candlewick consumed to half its height(aprox).

[0051] Figure 5 is a esquematic perspective view showing a free standing inflamed candle conformed with the compound of the present invention, which includes three lit candlewicks.

[0052] Figure 6 is a esquematic perspective view showing a free standing candle conformed with the compound of the invention , which includes "purpurin".

[0053] Figure 7 is a esquematic perspective view showing a free standing candle conformed with the compound of the invention, which includes air bubbles.

[0054] Figure 8 is a esquematic perspective view showing a free standing candle conformed with the compound of the invention, which includes decorative elements.

DESCRIPTION OF THE INVENTION

[0055] The compound is prepared mixing the hydrocarbon oil with a triblock copolymer, heating this mixture and stirring it regularly until it reaches 150-160 ° C equivalent to 302-320° F. Stirring the mixture, mechanic or manually, is convenient to achieve the perfect dissolution of the polymer in the hydrocarbon oil. The hydrocarbon oil indicated for this compound is white oil ("vaseline")with the following characteristics:

SPECIFICATION	VALUE	METHOD
VISCOSITY SUS @ 37,8°C (100°F)	345	ASTM D 88
VISCOSITY CST @ 40°C (104°F)	32	ASTM D 445
DENSITY @ 20°C (68°F)	0,88	ASTM D 1298
FLASH POINT (VCA)	240°C (464°F)	ASTM D 97
TURBIDITY POINT	-5°C (23°F)	ASTM D 2500
COLOR AL PT-CO (EX ALPHA) being	+10	ASTM D 1209
ASTM = American Society for testing and Material (site:www.astm.org) METHOD= Method of analysis SUS and CST (centistokes) are measure units of each essay		

[0056] Two of these values are very important when choosing the white oil ("vaseline") which are: the flash point can not be inferior to 200°C (392 °F) and the viscosity should not be inferior to 32 CST, preferably at least 67.8.

[0057] The other values can change, within the specifications of the product, without altering the preparation of this invention's compound.

[0058] In relation to the triblock copolymer the most convenient is = triblock copolymer with polystyrene end blocks and a rubbery poly (ethylene butylene) mid block. The prefered characteristic of the polymer used in the preparation of this invention's compound should be comprised in the following characteristics.

Tensile strength, psi	4.500
Elongation at break,	500
Modulus at 300% extension, psi	700
Film appearance	Clear,water white
Solution viscosity *25% w in toluene, cps	1800
Melt viscosity, melt index, condition G, Gms-10 min	1
Styrene-rubber ratio	30-7

*Brookfield viscosity meter Model RTV to 25°C (77°F)

[0059] The polymers that better suit this characteristics are Kraton G 1652 of Shell Chemicals.

[0060] For the achievement of the compound of the invention we start from hydrocarbon oils that have the feature of remaining liquid within a temperature range between 0°C(32°F) and 200 °C (392°F), as well as the condition of being transparent and of high density.

[0061] One of the elements that best adapts to said conditions is 180 density white oil ("vaseline") .

[0062] Likewise, for the composition of the compound of the invention polymers are used. The first step is to mix two-block or three-block polymers, especially S-EB-S chain, which are capable of retaining more than twenty times its weight in hydrocarbon oil.

[0063] Among the polymers found in the market, "Kraton" trademark is one that allows achievement of the best results. As it is well-known, there are different kinds, but those of "Kraton Series G" are the best. These series correspond to a kind of three-block polymer such as "S-EB-S" type.

[0064] It is also possible to use "Kraton Series D" type, but they do not result as good as in the previous case.

[0065] The quantity of polymer to be used relates to the level of hardness intended for the mixture.

[0066] Starting from the previously mentioned elements, we proceed to the mixture through normal stirring, at a temperature ranging from 80 °C (176°F) to 160 °C (320°F), up to the solubilization of the mixture leaves the solution transparent.

[0067] For the pouring in molds, materials of delicate finish and that resist temperatures up to 160 °C may be used. Varying the temperature and speed of pouring we obtain variations in relation to the final finish of the material, which may be with air bubbles of different sizes o without them.

[0068] In Fig. 1 a mold-M-able for this function is represented, having a completely open superior base which has an internal diameter -a- and a height -b-.

[0069] For the pouring of the compound -C-inside the mold -M-, the mold must be able to resist without deforming temperatures up to 160° C (320 ° F), considering that stainless steal, brass, aluminum, copper , bronze, silicon rubber etc. are the most convenient materials for the molds. In relation to the surface -1- of the mold, it is very important that the interior surface be brilliant, neat, polished, because the compound -C- will have the same neatness and brightness.

[0070] By changing the temperature and the speed of the pouring of the compound inside the molds, different finish can be obtained.

[0071] Once it gets cold,at room temperature, a completely clear, transparent and without bubbles compound is obtained when pouring the compound in the molds at a temperature between 150°C(302°F) and 160°C (320°F), (figures N° 2,3,4 y 5).

[0072] Instead, if the temperature of the compound -C. is between 100°C(212°F) and 120°C(248°F) when pouring it, the compound will have air bubbles -2- when it gets cold (at room temperature) (Figure N°7). Air bubbles -2- also appear if the speed and the height of the pouring are changed since that allows the entrance of more air or less air into the compound.

[0073] Figure 2 represents a free standing candle-100- already conformed according to the format and dimensions of the mold -M-defined in figure -1-.

[0074] For the shaping of a candle this compound is capable of keeping the candlewick -3- in a similar way as it is disposed in conventional candles. Conventional paraffin candlewick as well as candlewicks for gel or especially prepared for this type of candles composed of a cotton string imbibed in a solution of pine resin may be used.

[0075] Said candlewick may be placed during the manufacture of the candle, on the traditional way, that is to say, arranging same in correspondence with the longitudinal axe of the mold and fixing it in a way that has to be stretched

or erected so as it cannot move while the mixture is poured.

[0076] It is also possible to place it taking advantage of the feature of elasticity of the compound of the invention, therefore, once the candle has been shaped, it will be enough to make a hole -4- (showed in candles -100b and 100d, visible in figures Nrs.4 and 6) through which the whole candlewick -3- moves forward till arranging in the condition of usage. It keeps stable, without relative displacements due to the mentioned elasticity of the material.

[0077] The hole -4- extends through the body of the candle in correspondance with the axis of simmetry -L- which extends from inferior base -B- of the candle (candles 100b and 100d of fig. 4 and 6.)

Under the stated conditions, it is possible to shape candles of different sizes and dimensions, which will have a minimum size that, first, depends on the candlewick -3-size used, since the combustion temperature generated and the quantity of adjacent material melted with same depends on this fact.

[0078] It is possible to manufacture candles of different forms and sizes taking into account the candlewick's -3-thickness and the melting diameter, since they condition the minimum candle's diameter.

[0079] If we take a candle diameter larger than the melting diameter , we will achieve a decorative effect highly pleasant since the portion of the material not melted keeps its original structure. For example, if we build a candle of a diameter which is twice the melting diameter produced during the combustion of a candlewick-3-, we can observe the formation of a tunneling-5- because the wick's flame -6- will melt a certain diameter of the compound around the wick -3- but the rest of the candle will remain changeless.As the flame -6- consumes the wick -3- during the combustion and, as consequence, the wick-3- is shortened by this combustion, the light produced by the flame -6-inside the candle will go through the transparent body of the candle achieving a very special, beautiful and unique effect.

[0080] Figure 3 shows a free standing candle built with a plurality of minor portions of the invented compound, of different sizes and forms, as the represented with references -7- -8- and -9-, being said portions defined by different methods like molding, lamination,extrusion etc. Having the mentioned portions united one with each other, we obtain a free standing candle behaving like the candles mentioned in the previous cases.

[0081] This compound's shapes and formats obtained can be laminar, cylindrical, rectangular, and any other design wished. By using heat to melt the compound in the desired joint point of two of the portions obtained, the melted compound of both portions will mix and, once is cold, the two portions get united conforming one single piece. This allows an artist, for example, to design and manufacture unique candles by making and joining portions of the compound with different colors, finish and shapes .

[0082] In Figure 5. we appreciate that this composition allows the conformation of free standing candles of large diameter which size allows the placing of more than one wick, in this case wicks -3 a- -3b- and -3c- which get reduced by the combustion generating tunnelings -5a- -5b-y -5c- lightened with flames -6 a- -6b- and -6c-.

[0083] The invented compound also allows the possibility of being mixed with colorants by adding dyes to color the compound and also can be mixed with aromatic fragrances to perfume the ambient air during the combustion.

[0084] Figure 6. shows a candle where the compound has been mixed with granular material like "purpurin" -10-.

[0085] Figure 8. shows the case where the body of the candle has different decorative elements -11 a to d- distributed in its interior. This can be achieved by placing the decorative elements in the compound, once is poured in the mold and before it gets cold . The compound will hold the decorative elements and, due to the compound's' transparency, the decorative elements will be visible from outside.

EXEMPLARY EMBODIMENTS

Example 1:

[0086] A mixture containing white oil in a relation of 75 to 88 weight percent and a three-block Polymer of "Kraton G series" type in a relation of 25 to 12 weight percent was prepared.

[0087] This compound was obtained heating the mixture at a temperature ranging between 100 °C (212°F) and 160 °C, (320°) stirring usually till same becomes clear and transparent.

[0088] In this case a dye and aromatic fragrance was added and the obtained mixture was poured in a cylindrical mold of 7 cm diameter and 7 cm of height proceeding to its cooling and hardening.

[0089] Once it is cooled, at room temperature, the demolding was made and the placement of the candlewick or wick was performed, in this case formed by a cotton string imbibed in an alcoholic solution of pine resin. To do so we built a passing hole in correspondence to the axe of symmetry of the cylindrical body, in which said candlewick was introduced.

[0090] From the stated way, we obtained a free standing, transparent and color candle. Same kept a flame, product of the combustion generated from the candlewick, which maintained constant during 40 continuing hours.

Example 2:

[0091] A mixture similar to that of example 1 was prepared, and, previous to the stage of cooling, we proceeded to pour it in a plurality of different molds.

[0092] These portions were mixed with different coloring essences and then exposed to cooling individually, as explained previously.

[0093] It is highlighted that, appealing to conventional methods different forms of compounds were obtained, such as sheets of different sizes, strings of different thickness as well as portions without defined format, all of them in varying colors, as explained previously.

[0094] Using the mentioned portions in solid state we proceed to handmade design different structures assigned to shape candles; the different portions were joined together, applying heat, obtaining bodies of different shapes and sizes, as explained previously.

[0095] The corresponding candlewick was introduced in the body of the candle, following the same method explained in the previous example.

Claims

1. A TRANSPARENT, ELASTIC AND FREE STANDING COMPOUND FOR THE MANUFACTURE OF CANDLES, comprising the mixture of a hydrocarbon oil in a relation of about 88 to 75 in weight percent and at least one copolymer selected from the group of triblock and diblock polymers in a proportion from about 12 to 25 in weight percent; wherein said hidrocarbon oil having a viscosity of at least 180 SUS at 37°C (100°F)or, if viscosity in CST, being greater than 32 at 40°C (104°F), and the flash point (VCA) greater than 220°C (425°F).

2. A TRANSPARENT, ELASTIC AND FREE STANDING COMPOUND FOR THE MANUFACTURE OF CANDLES, as set forth in claim 1, wherein the viscosity of the hydrocarbon oil is 340 SUS at 37° C (100°F) or, if measured in CST is 67,8 at 40° C (104°F).

3. A TRANSPARENT, ELASTIC AND FREE STANDING COMPOUND FOR THE MANUFACTURE OF CANDLES,, as set forth in claim 1, wherein the hydrocarbon oil has a flash point at 240°C (464°F).

4. A TRANSPARENT, ELASTIC AND FREE STANDING COMPOUND FOR THE MANUFACTURE OF CANDLES, as set forth in claim 1, wherein the copolymer is triblock copolymer "Kraton G 1652" of Shell Chemicals.

5. A TRANSPARENT, ELASTIC AND FREE STANDING COMPOUND FOR THE MANUFACTURE OF CANDLES, as set forth in claim 1, wherein the proportion of the hydrocarbon oil in the compound is 83.8 in weight percent and the proportion of the at least one copolymer in the compound is 16.2 in weight percent .

6. A TRANSPARENT, ELASTIC AND FREE STANDING COMPOUND FOR THE MANUFACTURE OF CANDLES, as set forth in claim 1, wherein the mixture of the compound has a proportion of hydrocarbon oil between 88 and 73 in weight percent and a proportion of the at least one copolymer selected from the group of diblock and triblock copolymers is between 12 and 27 in weight percent.

7. A FREE STANDING CANDLE obtained with a mixture of a hydrocarbon oil in a relation of about 88 to 75 in weight percent and at least one copolymer selected from the group of triblock and diblock polymers in a proportion from about 12 to 25 in weight percent; wherein said hidrocarbon oil having a viscosity of at least 180 SUS at 37°C (100°F)or, if viscosity in CST, being greater than 32 at 40°C (104°F), and the flash point (VCA) greater than 220°C (425°F), being said candle capable of maintaining the free standing condition even when is lit by means of a flame produced as consequence of the combustion of a wick that crosses the body of the candle proyecting toward outside one of its ends.

8. A FREE STANDING CANDLE as set forth in claim 7, wherein the viscosity of the hydrocarbon oil is 340 SUS at 37°C or, if measured in CST , is 67.8 at 40 °C.

9. A FREE STANDING CANDLE as set forth in claim 7, wherein the hydrocarbon oil has a flash point at 240°C.

10. A FREE STANDING CANDLE as set forth in claim 7 wherein the hydrocarbon oil's proportion in the compound is 83.8 in weight percent and the proportion of the at least one copolymer is 16.2 in weight percent .

11. A FREE STANDING CANDLE as set forth in claim 7, obtained with a mixture of a hydrocarbon oil in a relation of about 88 to 75 in weight percent and at least one copolymer selected from the group of triblock and diblock polymers in a proportion from about 12 to 25 in weight percent; wherein said hidrocarbon oil having a viscosity of at least 180 SUS at 37°C (100°F)or, if viscosity in CST, being greater than 30 at 40°C (104°F), and the flash point (VCA) greater than 220°C (425°F), being said candle capable of maintaining the free standing condition even when is lit by means of a flame produced as consequence of the combustion of a wick that crosses the body of the candle proyecting toward outside one of its ends where said wick is a cotton string imbebed in an alcoholic sollution of vegetal resin.

12. A FREE STANDING CANDLE, as set forth in claim 7, wherein the candlewick is firmly retained in a passing hole, produced when the compound is cold, at room temperature, that crosses the body of the candle in longitudinal correspondence to the axis of symmetry from the inferior base.

13. A FREE STANDING CANDLE as set forth in claim 7, built by the union of a plurality of different minor portions, wherein said minor portions are individually made of a mixture of a hydrocarbon oil in a relation of about 88 to 75 in weight percent and at least one copolymer selected from the group of triblock and diblock polymers in a proportion from about 12 to 25 in weight percent; wherein said hidrocarbon oil having a viscosity of at least 180 SUS at 37°C (100°F)or, if viscosity in CST, being greater than 32 at 40°C (104°F), and the flash point (VCA) greater than 220°C (425°F).

14. A FREE STANDING CANDLE as set forth in claim 7, obtained with a mixture of a hydrocarbon oil in a relation of about 88 to 75 in weight percent and at least one copolymer selected from the group of triblock and diblock polymers in a proportion from about 12 to 25 in weight percent; wherein said hidrocarbon oil having a viscosity of at least 180 SUS at 37°C (100°F) or, if viscosity in CST, being greater than 32 at 40°C (104°F), and the flash point (VCA) greater than 220°C (425°F), being said candle capable of maintaining the free standing condition even when is lit by means of a flame produced as consequence of the combustion of a wick that crosses the body of the candle proyecting toward outside one of its ends, wherein that said mixture includes coloring essences.

15. A FREE STANDING CANDLE a set forth in claim 7, obtained with a mixture of a hydrocarbon oil in a relation of about 88 to 75 in weight percent and at least one copolymer selected from the group of triblock and diblock polymers in a proportion from about 12 to 25 in weight percent; wherein said hidrocarbon oil having a viscosity of at least 180 SUS at 37°C (100°F)or, if viscosity in CST, being greater than 32 at 40°C (104°F), and the flash point (VCA) greater than 220°C (425°F), being said candle capable of maintaining the free standing condition even when is lit by means of a flame produced as consequence of the combustion of a wick that crosses the body of the candle proyecting toward outside one of its ends,wherein said mixture includes aromatic fragrances.

16. A FREE STANDING CANDLE as set forth in claim 7, obtained with a mixture of a hydrocarbon oil in a relation of about 88 to 75 in weight percent and at least one copolymer selected from the group of triblock and diblock polymers in a proportion from about 12 to 25 in weight percent; wherein said hidrocarbon oil having a viscosity of at least 180 SUS at 37°C (100°F)or, if viscosity in CST, being greater than 32 at 40°C (104°F), and the flash point (VCA) greater than 220°C (425°F), being said candle capable of maintaining the free standing condition even when is lit by means of a flame produced as consequence of the combustion of a wick that crosses the body of the candle proyecting toward outside one of its ends, wherein said mixture includes air bubbles, which being of different sized are distributed through all the thickness thereof.

17. A FREE STANDING CANDLE as set forth in claim 7, obtained with a mixture of a hydrocarbon oil in a relation of about 88 to 75 in weight percent and at least one copolymer selected from the group of triblock and diblock polymers in a proportion from about 12 to 25 in weight percent; wherein said hidrocarbon oil having a viscosity of at least 180 SUS at 37°C (100°F)or, if viscosity in CST, being greater than 32 at 40°C (104°F), and the flash point (VCA) greater than 220°C (425°F), being said candle capable of maintaining the free standing condition even when is lit by means of a flame produced as consequence of the combustion of a wick that crosses the body of the candle proyecting toward outside one of its ends, wherein said mixture includes decorative elements arranged in the inner part of the thickness, which keep visible from outside.

18. A FREE STANDING CANDLE as set forth in claim 17, wherein the decorative elements arranged in the inner part of the thickness, which keep visible from outside, are placed outside the portion of the compound adjacent to the candlewick.

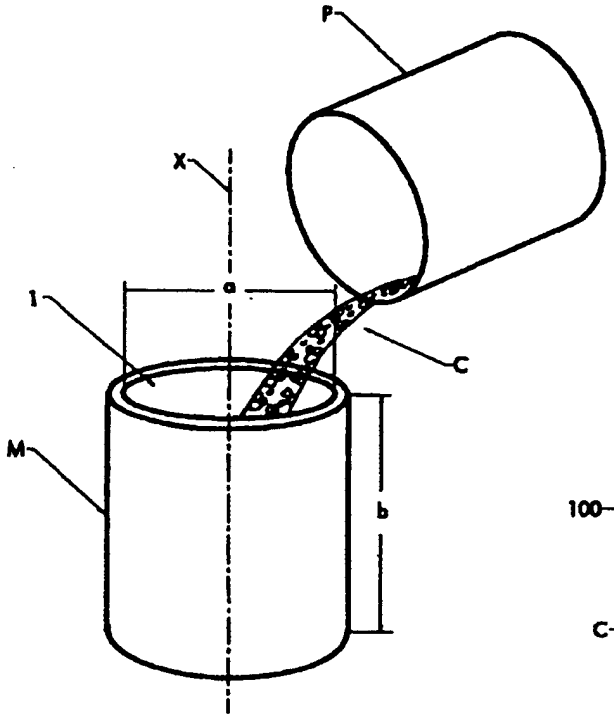

FIG. 1

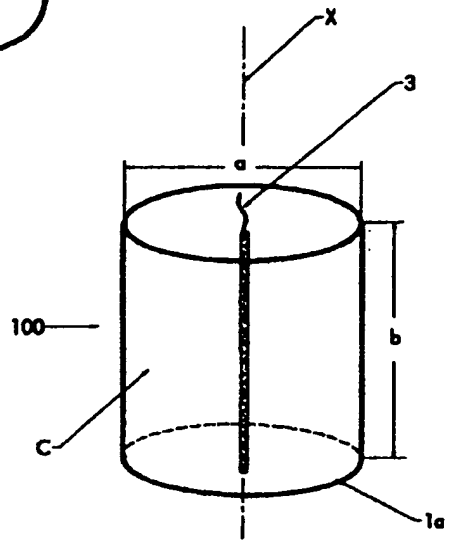

FIG. 2

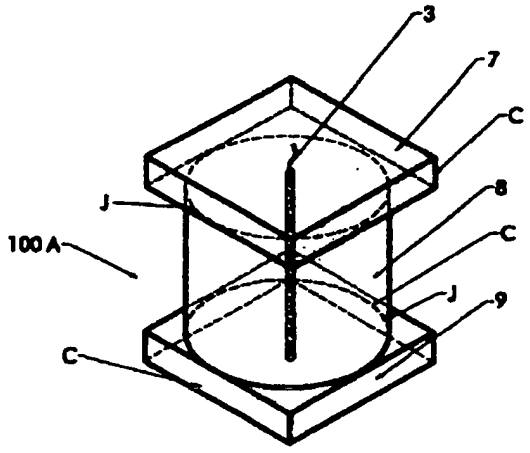

FIG. 3

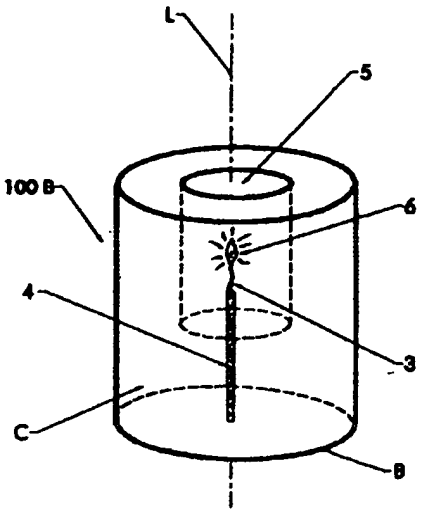

FIG. 4

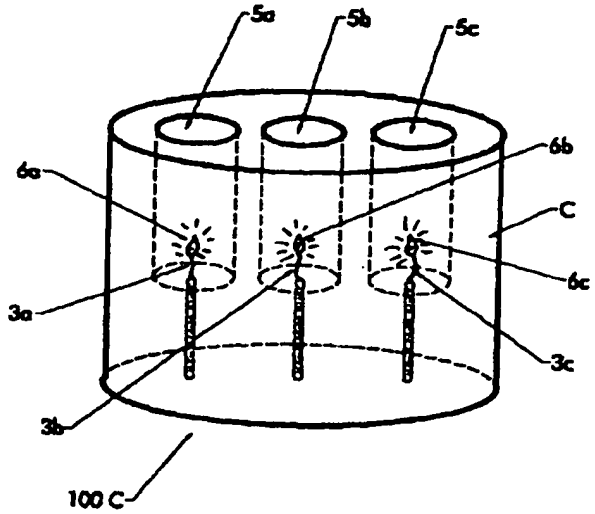

FIG. 5

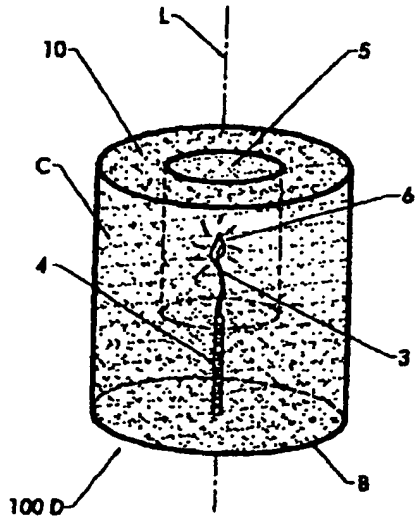

FIG. 6

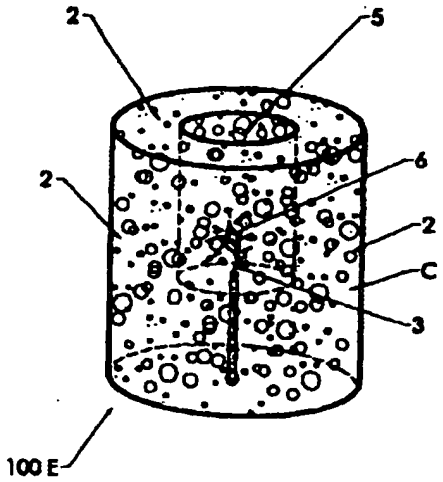

FIG. 7

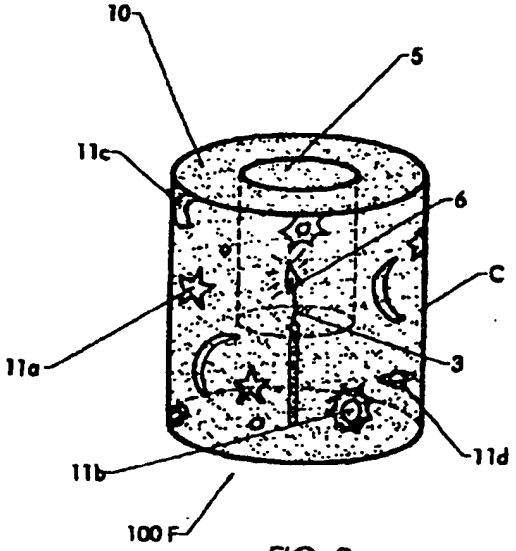

FIG. 8

PUB-NO: EP001188815A2

DOCUMENT-IDENTIFIER: EP **1188815** A2

TITLE: A transparent elastic and free-standing compound for the manufacture of candles and the free-standing candle obtained with said compound

PUBN-DATE: March 20, 2002

INVENTOR-INFORMATION:

NAME	COUNTRY
PEREZ, ROLDAN ALBERTO	AR

ASSIGNEE-INFORMATION:

NAME	COUNTRY
GUTBEZAHL GABRIEL SERGIO	AR

APPL-NO: EP01121338

APPL-DATE: September 6, 2001

PRIORITY-DATA: AR00004870A (September 15, 2000) , AR00102961A (June 21, 2001)

INT-CL (IPC): C11C005/00

EUR-CL (EPC): C11C005/00

ABSTRACT:

CHG DATE=20020503 STATUS=O> Refers to a compound comprising the mixture of a hydrocarbon oil in a relation of about 88 to 75 in weight percent and at least one copolymer selected from the group of triblock and diblock polymers in a proportion from about 12 to 25 in weight percent; wherein said hidrocarbon oil having a viscosity of at least 180 SUS at 37 DEG C (100 DEG F) or, if viscosity in CST, being greater than 32 at 40 DEG C (104 DEG F), and the flash point (VCA) greater than 220 DEG C (425 DEG F). Also is claimed a free standing candle built with this compound, being said candle capable of maintaining the free standing condition even when is lit by means of a flame produced as consequence of the combustion of a wick that crosses the body of the candle proyecting toward outside one of its ends. <IMAGE>